

Intercultural Aspects in Supply Chain Management –An important Element in the Design of Information Services in the Supply Chain Management context

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1. Motivation

1.1. Introduction

Already in the era of Amerigo Vespucci and Hernan Cortés when the first explorers tried to circumnavigate the world, international supply chains existed. The former merchant shipping required a simple structured supply chain which evolved into complex maritime navigation during the centuries. Today, in extremely competitive global surroundings, many economies have established free trade agreements in order to take a stand against the stress of competition in international business relationships. Therefore, decision makers in international companies face the challenge of dealing with a wide knowledge about intercultural management along the supply chain in order to successfully interact with other global players. Furthermore, this interaction requires a high integration of the information and material flows. Logistics service providers see themselves confronted with the growing demand of individually tailored information services by more and more internationally operating companies. The design of an information service in the logistics environment is a complex procedure and comprises various steps, methods, and tools which have to be implemented sometimes even in a repetitive way. Now, going global designing information services and taking into consideration the necessary intercultural aspects doing so, a complete new set of requirements has to be taken into account.

1.2. Main Research Question

Taking into consideration the mentioned aspects and having in mind the alteration from an industrial society to a post-industrial¹ one as a current trend, it is obvious that the relevance of service is very high. Therefore, it is crucial to be aware not only of the individual needs and wishes of a customer but also the customer's cultural background in order to design and offer an individually tailor-made information service in the competitive global market.

That is why the drafted main research question comprises the intercultural aspects and supply chains as well as information services and their development:

“What are the intercultural aspects that must be taken into account during the design of information services for International Supply Chain Management considering intercultural supply chains between Europe and Latin America?”

In the following, the methodological framework comprehending fundamentals, status quo, and service is presented. A brief description of the research subquestions gives an overview of the work and is illustrated by means of an extensive literature review revealing the importance of intercultural aspects in supply chain management.

¹ Society based on services

2. Methodological Framework

2.1. Fundamentals

In order to structure the first steps of research towards the stated research question in paragraph 2; the fundamental research topics and directions have to be defined, analysed, and interpreted. By means of literature review as applied methodology; four pillars of theoretical concepts are examined.

Due to the broad variety and high number of scientific publications regarding the topic “culture” it is necessary to differentiate between individual and organizational culture. The first term refers to the culture of individual persons and the programming of their mind (Hofstede 1980).

In contrast to that, organizational culture represents the culture of an organization or company as a whole including company customs and other details not always clear to persons who are not involved in the organization or company.

Considering supply chain management an important part of the main research question it is essential to provide a detailed definition in the introduction dealing with the fundamentals.

As a third element of the presented fundamentals the term information service is to be defined and adjusted to the research context. Last but not least, the method of how to design such service needs to be defined, as well.

2.2. Status Quo

Once accomplished the definition of the concepts building the base of the methodological pyramid; the second and exploratory layer of the mentioned construct in terms of the current situation has to be investigated.

Along the lines of the definition of culture in its two considered specifications: “individual” and “organizational”; the next step would be the analysis of intercultural aspects in supply chain management. Hereby,

already detected particularities of cultural definitions can be transferred to the supply chain management context.

Based on the definition of supply chain management situated in the fundamental and theoretical layer of the methodological pyramid, the relationship between Europe and Latin America should be explored regarding this concept.

Drawing on a general understanding of service design, an approach towards this term and its significance in Latin America should be elaborated.

2.3. Survey

Comprehending the elaborated layers of the methodological pyramid a research model is to be developed and verified. Verification will be conducted by means of several case studies and a final empirical confirmative study. The following figure 1 comprises this section.

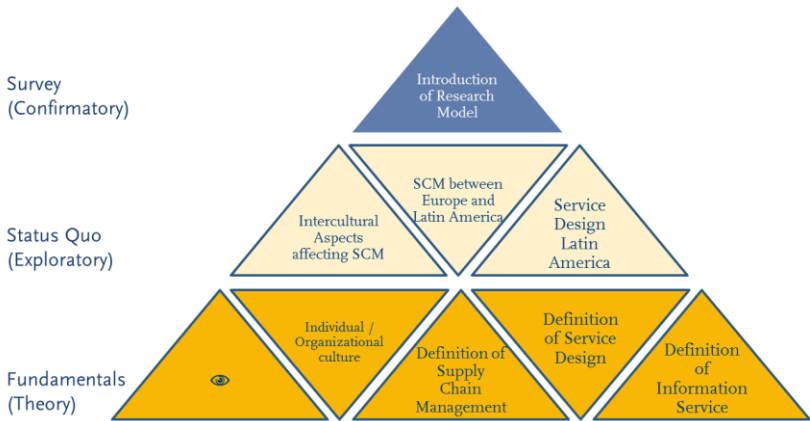


Figure 1: Methodological Framework

3. Research Subquestions

3.1. Fundamentals – Theoretical Layer

With the objective of strengthening the base of the methodological pyramid, it is essential to draft some research subquestions in order to gain a comprehensive and detailed overview on the research topic by means of literature review. The research subquestions of the theoretical layer are presented as follows:

- What is the definition of culture?
 - What means organizational culture?
 - What is meant by individual culture?
- What is the definition of supply chain management?
- What is the definition of an information service?
- What is service design?

3.2. Status Quo – Exploratory Layer

The second exploratory layer of the methodological pyramid comprises the research subquestions dealing with the current situation of the theoretical developed contents by means of field or case study. The research subquestions of the exploratory layer are presented as follows:

- How does successful supply chain management work between Europe and Latin America?
- Which are significant intercultural problems/aspects to be considered in modeling information services in Latin America today?
- Which intercultural problems/aspects have to be considered modeling information services?
- Which current intercultural problems/aspects exist in supply chain management?

Research Subquestions	Goal	Methodology
How does successful SCM work between Europe and Latin America?	Current research focus	Field/Case Study
Which are significant intercultural problems/aspects to be considered modeling information services in Latin America today?	Current research focus	Field/Case Study
Which intercultural problems/aspects have to be considered modeling information services?	Current research focus	Field/Case Study
Which current intercultural problems/aspects exist in SCM?	Current research focus	Review
What is the definition of SCM?	Definition	Review
What is the definition of culture? SubQ 1: What means organizational culture? SubQ 2: What is meant by individual culture?	Definition	Review
What is the definition of an information service?	Definition	Review
What is service design?	Definition	Review

Figure 2: Research Subquestions

The classical method of literature review is applied in order to achieve a relevant overview regarding the determined search criteria dealing with the research subquestion highlighted in blue color in figure 2. In doing so, the following three research questions are addressed in this work. The first research question deals with a possible definition of intercultural aspects in supply chain management; the second examines whether and which research directions concerning intercultural aspects in supply chain management can be defined; and the third summarizes the main intercultural barriers for a successful supply chain.

In the following sections the research method of literature review is described and the data results are clustered and evaluated in order to discuss and present solutions to the research questions. Finally, some indications for further research in the field of supply chain management dealing with intercultural aspects are stated.

This contribution identifies current trends in intercultural aspects in supply chain management and discusses their significance and relevance in order to successfully manage international supply chains in today’s global environment.

4. Literature Review

4.1. Methodology

In order to gain a comprehensive overview of what has been written in the public domain and which type of research has been conducted concerning the topic of intercultural aspects in supply chain management (SCM), an extensive literature review is conducted. Taking information integrity as the primary objective, the following parameters were carefully selected for the literature review. In the first instance, the search criteria, data bases and timeframe were established. These primary terms of data acquisition are crucial for the results of the whole study. The search criteria consisted of a set of keywords in order to scan databases and involved the terms “supply chain management and intercultural aspects”. The data acquisition was conducted by means of the databases EBSCO (Business Source Premier), Emerald, JSTOR, Science Direct and SpringerLink in the full text search modus. In terms of timeframe, the parameters were defined for the years from 1980 to 2012. Both the selected databases and the timeframe were broadly based in order to gain a wide overview of the searched terms and their position in different fields of contemporary existing studies.

After having conducted the search in full text modus in each of the mentioned databases, the respective results were saved in separate Citavi projects. As an overall result, 698 pieces of literature were found and showed the following distribution across the five different databases mentioned: EBSCO (Business Source Premier) with six, Emerald with 143, JSTOR with 168, Science Direct with 249, and SpringerLink with 199 contributions.

At this point, a content analysis consisting of relevance sampling (Krippendorff 2003) and categorization was carried out. The initial review methodology defines the criteria for a repetitive review of search results. In order to be able to concentrate on the important articles within the overall result of 698 articles, the decision was made to only consider texts written in English, Spanish, or German. Furthermore, book reviews, article summaries and workshop papers were disregarded for the mo-

ment. Subsequently, all 698 results were reviewed regarding title, abstract and keywords in order to filter out irrelevant search results. In addition to these formal criteria, some supplemental restrictions with regards to content were also applied. Articles in the fields of marketing, sales, education, tourism and human resources in general were discarded, as well as articles dealing with historical or geographical aspects. Moreover, articles discussing topics located in Australia, New Zealand, Africa, Turkey and the Scandinavian countries were left out.

As an overall outcome after relevance sampling, 118 results stemming from the five different databases showed the following composition: EBSCO (Business Source Premier) with four, Emerald with 54, JSTOR with 20, Science Direct with 20, and SpringerLink with 20 results. Those results were saved in separate Citavi projects and as a final step consolidated into one overall Citavi project using the Citavi import operation. During the process of consolidating five Citavi projects into only one Citavi project, duplicates were automatically removed. Through the cross checking method, several articles and books were added and the final result consisted of a total of 89 journal articles and 21 books. The consolidation identified the relevant literature regarding the topic for further studies wherein the findings could be considered as a particular link between the two scientific disciplines of supply chain management and intercultural studies.

Thereupon, an even deeper analysis of the final results by means of clustering was applied. All articles were re-examined and priorities as well as research directions were assigned to each one of them. As a result from this final step, eight cluster fields could be identified, comprising of cross-cultural studies, cultural studies, ethnological studies, intercultural communication, legal issues, politics especially exportation, supply chain management and sociopolitical studies. Two of the mentioned clusters, cross-cultural studies and supply chain management, were subdivided into a clear form and specifications. Cross-cultural studies were defined in a clear form and with two areas of specialization, namely cross-cultural studies in ethnology and cross-cultural studies in RFID technology. Supply chain management was defined in a clear form with one area of specification: supply chain management in cross-cultural studies.

Based on this detailed description of how data acquisition, relevance sampling and clustering were conducted, the following part of the data analysis and evaluation presents the theoretical findings of this literature review.

4.2. Data Evaluation

After having conducted an extensive literature research on the terms supply chain management and intercultural aspects, none of the articles considered provided a definition of intercultural aspects in SCM. Thus, considering the literature findings, it seems that the first research question, “is there a definition of intercultural aspects in SCM?”, remains unanswered. Therefore, it could be implied that an answer is not easily found as a complex and complete definition in one article, but instead could be built up by summarizing together bits and pieces of various articles during overall research on the topic. Focusing on the term supply chain, an approach toward a definition could be the statement of Handfield who determined that

“the supply chain consists of all the activities and processes associated with the flow of goods and information from the raw materials stage to the end consumer of the product or service. The integration of those activities mentioned and processes among the members of the supply chain is frequently called supply chain management.” (Handfield 1999, page 2)

Focusing on the intercultural aspects, it is to be said that the term embraces the required knowledge and preparation needed in order to overcome individual culture shocks more easily and to take and implement efficient decisions rapidly in a different cultural surrounding than one’s own. Thus, intercultural knowledge is a major resource for firms and nations because the management capability of intercultural knowledge can increase core competitiveness (Fink et al. 2005). Summarizing the explanation dealing with the first research question; intercultural aspects in SCM are understood as the knowledge of cultural differences applied to the activities and processes among the individuals managing the flow of goods and information from the resources stage to the final product or service.

Dealing with the second research question, "Which research directions concerning intercultural aspects in SCM can be defined?" the integration of two scientific disciplines of supply chain management and intercultural studies was emphasized earlier in this contribution. The integration and understanding of the previous would provide a specific advantage to practitioners due to the growing globalization in today's business interactions. Firms being aware of the particularities of the entering market can facilitate the entry process and thus have a better chance of building long-lasting business relationships. Knowing the norms and culture of particular market-societies (Mattson 2003) would help into the previous. Yet, according to Rose-Anderssen, Baldwin, and Ridgway:

"both the integration and coordination of inter-firm activities are essential to the supply chain." (Rose-Anderssen et al. 2010, page 139)

Since before stepping outside the own company in order to do business globally, such procedures have to be known internally. Canen and Canen argue that:

"logistics could help understanding, sensitizing, and consideration of cultural diversity in management education and cultural plurality is an asset, rather than a constraint." (Canen and Canen 2002, page 73)

So, having together for example procurement planning, communication, joint ventures in multinational-cultural teams it looks as those different activities and units are being part of the whole supply chain management in international firms. The argument that culture is one of the factors of most impact shaping individual values and affecting personal behavior (Kassim and Abdullah 2010) suggests that in an ordinary supply chain, culture begins with individuals acting and interacting that supply chain. Those individuals act and explain every event differently due to their cultural and linguistic characteristics (Luo and Shenkar 2006). Hence, there is an indication that culture might have an impact on the supply chain because individuals could have different cultural backgrounds while managing the flow of goods and information along the chain; similarly to what was asserted previously. At this point it should be highlighted that this contribution deals with the denomina-

tion culture as the individual culture of persons who participate in the process of SCM representing different roles and responsibilities, for example agents, intermediaries, representatives or similar. In contrast to that, the organizational culture refers to the personality of a company, making it unique in the eyes of in- and outsiders (McAfee et al. 2002) and due to Cadden, Humphreys and McHugh (2010) could provoke failure of strategic supply chain relationships. Consequently, organizational culture is not objective of this investigation.

Culture is even so important that, for example, in EU law, it is included in the Treaty and has survived into the EU Constitution. The previous reflects specific institutional needs for such a basis. Culture has surfaced in legal argument before the European Court of Justice (Tunney 2005). However, the authors Vom Brocke and Sinnl (2011, page 359) state that “culture is a broad and blurry concept because it is associated differently depending on the context” and due to Leidner and Kayworth (2006, page 357) “it is a challenging variable to research, in part because of the multiple divergent definitions and measures of culture.” Given the circumstance that culture is indeed important to the supply chain, it brings the argument back to the initial question of which research directions concerning intercultural aspects in SCM can be defined. Taking one step back to the literature review in the process of relevance sampling, the pieces of literature comprising articles and books were examined and priorities and possible research directions assigned. The question is whether the selectively applied clusters as umbrella terms could be taken into consideration as the ‘real’ research directions. Re-examining the said clusters, as cross-cultural studies, cultural studies, ethnological studies, intercultural communication, legal issues, politics especially exportation, supply chain management and sociopolitical studies, their study looks very promissory to advance in the field. The research directions concerning intercultural aspects in SCM are as wide-ranging and diverse as the clusters dealing with culture and SCM but also examining ethnological, legal or even sociopolitical aspects, among others.

Finally, the third research question, “What are the main intercultural barriers for a successful supply chain?” is examined. Second to none, there is no “culture-free” context of organization, because even if organizational solutions or contexts are similar, they are always culturally con-

structed and very imperfectly interpreted as the reaction to a given constraint (Sorge 1982). The increasing globalization of business has heightened the importance to understand the cross-cultural as well as the intercultural perspective of national cultural influences in inter-organizational relationships (Griffith et al. 2006). Furthermore, the concept of cultural differences as a significant barrier to business activities is generally recognized today (Harzing and Feely 2008). However, the impact of the collision of cultures in management activities is still lacking understanding and therefore also solution statements (Kidd 2001). Though, due to Lauring:

“obstacles to intercultural communication are not always restricted to cultural misunderstandings.” (Lauring 2011, page 246)

Saner, Yiu and Søndergaard argue that:

“after all, many of the conflicts a multinational company must solve are in countries with very different legal, cultural, political and economic systems.” (Saner et al. 2000, page 86)

Nevertheless, this study does not only consider the stated example of multinational companies but also exporting, importing and forwarding businesses, agents and the many other intermediaries and participants in SCM. In 1980, Geert Hofstede published the results of his research on the consequences of culture in the international business world and was one of the pioneers in the field of intercultural research including individual and organizational culture. Based on a quantitative model of the four dimensions (power distance, uncertainty avoidance, individualism and masculinity), he statistically measured similarities and differences between national cultures of 15 different countries and a variety of companies and industries. Nonetheless, the culture dimensions measured through Hofstede's model are highly inter-related, and national culture is the result of the interaction among these dimensions. Hence, the composition of the different aspects of culture has a greater impact than the particular cultural dimension on its own (Cagliano et al. 2011). As a consequence, the main intercultural barriers for a successful supply chain can always be seen as a composition of various elements, like the

cultural dimensions of Hofstede's model interacting with each other. At this point complexity is added through the fact that the emergence of the global marketplace necessitates that SCM must be refocused into a global or network context. The supplement "global" to supply chain has a greater meaning than a change in name; it states a different composition of challenges and therefore requests a new kind of especially trained manager in order to succeed in the market (Harvey and Richey 2001). Returning to the definition of a supply chain established at the beginning of this chapter and taking into account the number of different research areas determined through the second research question it seems logically connected that a global supply chain is a structure of high complexity. There is a need for very diverse research in the different research areas in order to prepare adequate recommendations or solutions to present day problems transpiring in global business. In order to successfully perform international supply chain management, the knowledge of the fact that operations decisions are made differently in different countries or regions is not enough (Pagell et al. 2005). Therefore, Harvey and Richey state that:

"the objective would be to create multicultural competencies to facilitate effective implementation of global supply chain strategies." (Harvey and Richey 2001, page 109)

Such competencies will include the understanding of interactions of individual's intercultural elements with SCM activities.

4.3. Conclusion

The starting point of the investigation was the term intercultural aspects in supply chain management and the problem of how to successfully manage intercultural hurdles along the international supply chain. Based on a literature review that involves an overall summary on the major sources of intercultural and supply chain research, a framework is given in order to answer the three presented research questions as a whole. The literature review gives an insight into research considering intercultural aspects in supply chain management.

The three research questions have thus been assessed and the results indicate the following:

- (1) "Is there a definition of intercultural aspects in SCM?"
Intercultural aspects in SCM are to be understood as the knowledge of cultural differences applied to the activities and processes among the individuals managing the flow of goods and information from the resources stage to the final product or service.
- (2) "Which research directions concerning intercultural aspects in SCM can be defined?"
The research directions concerning intercultural aspects in SCM are as wide-ranging and diverse as the clusters dealing with culture and SCM, but also investigate ethnological, legal or even sociopolitical aspects, among others.
- (3) "What are the main intercultural barriers for a successful supply chain?"
The main intercultural barriers for a successful supply chain can always be seen as a composition of various elements, like the cultural dimensions of Hofstede's model interacting with each other.

One of the objectives of this work is to create more awareness of intercultural aspects in supply chain management and preparedness for further research on the combination of these two topics. In fact, several gaps in supply chain management research dealing with intercultural aspects were uncovered and should be considered in future contributions. The findings can provide helpful support for the management of supply chains across cultures. However, in the reviewed literature the importance of several additional aspects was pointed out but has not been presented in this contribution. The mentioned umbrella terms of knowledge management, trust, time perception, negotiation and leadership are also crucial to successful intercultural supply chain management and will be considered in the research following this work.

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